Notice of Allowability	Application No.	Applicant(s)	
	10/759,753	HERRINGTON ET AL.	
	Examiner	Art Unit	
	Krishnan S. Menon	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/12/07*.

2. ☒ The allowed claim(s) is/are *1,2,5-10,12,14-38,40,43-59,61-64 and 67; RENUMBERED 1-57*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Philip Askenazy on 3/2/07; applicant submitted an amended claims list by e-mail. E-mail communication is entered in the application.

The application has been amended as follows:

Amended Claims list follows starting on a fresh page.

The following is an examiner's statement of reasons for allowance: The closest prior arts do not teach or suggest the piston in the DPA valve wherein an area of the feed side of the piston is larger than an area of the retentate side for keeping said retentate inlet port sealed during a compression stroke of said pump.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Amended Claims List

1. (currently amended) A filtration system comprising:

a dual head pump comprising a single primary feed head and a single secondary retentate head separate from said primary feed head;

a hydraulically actuated differential pressure activated (DPA) valve; and

a filtration element;

wherein a front side of said primary feed head comprises a different swept volume than a front side of said secondary retentate head; and

wherein said DPA valve comprises:

a single piston slideably disposed in a single chamber, said chamber comprising a feed inlet port, a retentate inlet port, and a retentate discharge port; and

said piston comprising a feed side and a retentate side;

wherein an area of said feed side is larger than an area of said retentate side for keeping said retentate inlet port sealed during a compression stroke of said pump.

2. (original) The filtration system of claim 1 wherein said pump is a diaphragm pump.

3. (canceled)

4. (canceled)

5. (previously presented) The filtration system of claim 1 wherein said two heads provide a fixed recovery.

6. (previously presented) The filtration system of claim 1 wherein said two heads comprise diaphragms of differing radii.

7. (previously presented) The filtration system of claim 1 wherein said secondary retentate head is smaller than said primary feed head.

8. (previously presented) The filtration system of claim 1 further comprising a connection between said two heads.

9. (original) The filtration system of claim 8 wherein said connection is mechanical.

10. (original) The filtration system of claim 9 wherein said connection is a shaft.

11. (canceled)

12. (original) The filtration system of claim 8 wherein a force on said secondary retentate head offsets a force on said primary feed head.

13. (canceled)

14. (previously presented) The filtration system of claim 1 wherein said valve seals a discharge port of said retentate head when a feed pressure exceeds a retentate pressure.

15. (original) The filtration system of claim 14 wherein said valve is hydraulically activated.

16. (original) The filtration system of claim 14 wherein said connection and said valve provide a pressure recovery to said filtration system.

17. (original) The filtration system of claim 16 wherein said pressure recovery reduces energy required to operate said filtration system.

18. (original) The filtration system of claim 1 wherein said filtration element comprises a reverse osmosis element.

19. (original) The filtration system of claim 18 wherein said reverse osmosis element comprises a spiral wrapped element.

20. (original) The filtration system of claim 19 wherein said spiral wrapped element comprises:

at least one membrane; and

at least one thin feed spacer.

21. (original) The filtration element of claim 20 wherein said at least one thin feed spacer comprises a plastic web mesh.

22. (original) The filtration system of claim 20 wherein said at least one thin feed spacer is less than approximately .025 inches thick.

23. (original) The filtration system of claim 20 wherein said at least one thin feed spacer is less than approximately .011 inches thick.

24. (original) The filtration system of claim 20 wherein said at least one thin feed spacer provides for a reduction in an amount of total dissolved solids at a surface of said membrane.

25. (previously presented) The filtration system of claim 1 wherein at least one parameter of an optimized pulsed fluid flow produced by said pump is determined by a configuration of said filter element.

26. (previously presented) The filtration system of claim 25 wherein said parameter is selected from the group consisting of pulse frequency and pulse amplitude.

27. (previously presented) The filtration system of claim 25 further comprising at least one control to vary said at least one parameter.

28. (original) The filtration system of claim 27 wherein said control is manual.

29. (original) The filtration system of claim 27 wherein said control is automatic.

30. (original) The filtration system of claim 27 further comprising at least one permeate quality monitoring device.

31. (original) The filtration system of claim 30 wherein said at least one permeate quality monitoring device comprises a flow meter.

32. (original) The filtration system of claim 30 wherein said at least one permeate quality monitoring device measures total dissolved solids.

33. (original) The filtration system of claim 32 wherein said at least one permeate quality monitoring device comprises a conductivity meter.

34. (original) The filtration system of claim 30 further comprising a feedback loop, wherein said control is varied to optimize a quality of permeate as determined by said permeate quality monitoring device.

35. (original) The filtration system of claim 34 further comprising an electrical measurement device, wherein said electrical measurement device measures an amperage load on said system.

36. (original) The filtration system of claim 35 wherein said control is varied additionally to minimize said amperage load on said system.

37. (currently amended) A method for filtering a substance comprising the steps of:

providing at least one filtration element;

providing a dual head pump which pumps a pulsed flow of the substance to the filtration element, the dual head pump comprising a single primary feed head and

a single secondary retentate head separate from said primary feed head, wherein a front side of said primary feed head comprises a different swept volume than a front side of said secondary retentate head;

sealing a discharge port of a retentate head with a hydraulically actuated DPA valve when a feed pressure exceeds a retentate pressure; and

varying at least one parameter of the pulsed flow to optimize a desired characteristic of permeate filtered by the filtration element and the pump;

wherein the DPA valve comprises:

a single piston slideably disposed in a single chamber, the chamber comprising a feed inlet port, a retentate inlet port, and a retentate discharge port; and

the piston comprising a feed side and a retentate side;

wherein an area of the feed side is larger than an area of the retentate side for keeping the retentate inlet port sealed during a compression stroke of the pump.

38. (original) The method of claim 37 wherein the step of providing a pump comprises providing a diaphragm pump.

39. (canceled)

40. (previously presented) The method of claim 37 wherein the step of providing a dual head pump further comprises connecting the two pump heads.

41. (canceled)

42. (canceled)

43. (previously presented) The method of claim 37 wherein the step of providing a dual head pump further comprises providing a pressure recovery.

44. (original) The method of claim 43 wherein the step of providing a pressure recovery further comprises reducing energy required to filter the substance.

45. (original) The method of claim 37 wherein the step of providing a filtration element comprises providing a reverse osmosis element.

46. (original) The method of claim 45 wherein the step of providing a reverse osmosis element comprises providing a spiral wrapped element.

47. (original) The method of claim 46 wherein the step of providing a spiral wrapped element comprises providing at least one membrane and at least one thin feed spacer in the element.

48. (original) The method of claim 47 wherein the step of providing at least one membrane and at least one thin feed spacer in the element comprises reducing the amount of total dissolved solids at a surface of the membrane.

49. (original) The method of claim 37 wherein the step of varying at least one parameter of the pulsed flow comprises varying a pulse frequency and a pulse amplitude.

50. (original) The method of claim 37 wherein the step of varying at least one parameter of the pulsed flow further comprises measuring a desired characteristic of permeate.

51. (original) The method of claim 50 wherein the step of measuring the desired characteristic of the permeate comprises measuring a permeate flow rate.

52. (original) The method of claim 50 wherein the step of measuring the desired characteristic of the permeate comprises measuring total dissolved solids in the permeate.

53. (original) The method of claim 50 wherein the step of varying at least one parameter of the pulsed flow further comprises measuring an amperage load on the pump.

54. (original) The method of claim 53 wherein the step of measuring the amperage load on the pump further comprises minimizing the amperage load on the pump.

55. (original) The method of claim 53 further comprising providing a feedback loop to automatically vary the parameter of the pulsed flow, thereby optimizing the desired characteristic of the permeate and pump.

56. (currently amended) A pressure recovery filtration system comprising:

a dual head pump comprising a single primary feed head, a single secondary retentate head separate from said primary feed head and a single connection between the two heads;

a filtration element; and

a hydraulically actuated differential pressure activated (DPA) valve;

wherein a front side of said primary feed head comprises a different swept volume than a front side of said secondary retentate head; and

wherein said DPA valve comprises:

a single piston slideably disposed in a single chamber, said chamber comprising a feed inlet port, a retentate inlet port, and a retentate discharge port; and

said piston comprising a feed side and a retentate side;

wherein an area of said feed side is larger than an area of said retentate side for keeping said retentate inlet port sealed during a compression stroke of said pump.

57. (original) The pressure recovery filtration system of claim 56 wherein at least one of said heads comprises a diaphragm.

58. (original) The pressure recovery filtration system of claim 56 wherein said connection is mechanical.

59. (previously presented) The pressure recovery filtration system of claim 58 wherein said single connection is a shaft.

60. (canceled)

61. (original) The pressure recovery filtration system of claim 56 wherein a force on said secondary retentate head offsets a force on said primary feed head.

62. (original) The pressure recovery filtration system of claim 61 wherein said valve seals a discharge port of said retentate head when a feed pressure exceeds a retentate pressure.

63. (original) The pressure recovery filtration system of claim 62 wherein said valve comprises an inlet port connected to said retentate head and an inlet port connected to said feed head.

64. (original) The pressure recovery filtration system of claim 63 wherein said valve actuates according to a relative pressure difference between said inlet ports.

65. (canceled)

66. (canceled)

67. (previously presented) The method of claim 39 wherein the two pump heads are connected by a single shaft.

68. (canceled)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KSM/ 3/5/07

Krishnan S Menon
Primary Examiner
Art Unit 1723

Menon, Krishnan

From: Phil Askenazy [PAskenazy@peacocklaw.com]
Sent: Friday, March 02, 2007 2:50 PM
To: Menon, Krishnan
Subject: RE: Authorization of email communication

Examiner Menon:

Attached are the proposed amendments for these two applications. I have tried to make changes to all of the independent claims as you indicated. Note also that in the '753 application I canceled claims 65, 66, and 68 since they have now been included in the independent claims.

Please let me know if these amendments are acceptable.

Thank you very much,

Phil

Philip D. Askenazy, Ph.D.
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From: Menon, Krishnan [mailto:Krishnan.Menon@USPTO.GOV]
Sent: Monday, February 26, 2007 4:21 PM
To: Phil Askenazy
Cc: Menon, Krishnan
Subject: RE: Authorization of email communication

The following is a summary of an examiner initiated interview on 2/26/07 between Mr. Philip Askenazy and Examiner Menon regarding Application numbers:
10/759,750 and 10/759,753

10/759, 750:

Independent claims 1 and 25 could be made in condition for allowance if the claims were amended to include the location of the DPA valve as downstream of the membrane and the retentate chamber of the pump with respect to the retentate flow.

10/759,753:

Independent claims could be made in condition for allowance by further limiting the DPA valve as follows:

Wherein the DPA valve comprises a single piston slideably disposed in a single chamber;
the piston having a feed side and a retentate side;
the chamber having a feed inlet port, a retentate inlet port and a retentate discharge port;
the feed side area of the piston being larger than the retentate side area to keep the retentate port sealed during the compression stroke.

Krishnan S. Menon
Primary Examiner
AU 1723.

-----Original Message-----
From: Phil Askenazy [mailto:PAskenazy@peacocklaw.com]
Sent: Monday, February 26, 2007 5:22 PM
To: Menon, Krishnan
Subject: Authorization of email communication

Dear Examiner Menon:

This email is to authorize email communitcation on the following patent applications:

10/759,750
10/759,753

Thank you,

Philip Askenazy

Philip D. Askenazy, Ph.D.
Registered Patent Agent
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201 Third St. NW, Suite 1340
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NOTE

The attorney-client privilege and/or the attorney work product doctrine apply to this communication, including all attachments hereto. Furthermore, the communication is confidential and intended only for the named recipient.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/759,753
Applicant	:	Rodney E. Herrington
Filed	:	January 16, 2004
Title	:	DUAL HEAD PUMP FILTRATION SYSTEM
TC/A.U.	:	1723
Examiner	:	Krishnan S. Menon
Confirm. No.	:	8371
Docket No.	:	30750-1001

Commissioner for Patents
United States Patent and Trademark Office
PO Box 1450
Alexandria, Virginia 22313–1450

PROPOSED CLAIMS FOR EXAMINER'S AMENDMENT

Sir:

In response to the examiner initiated interview on 2/26/07, the following proposed claims are submitted per the Examiner's request.

Proposed Amendments to the Claims

1. (currently amended) A filtration system comprising:

a dual head pump comprising a single primary feed head and a single secondary retentate head separate from said primary feed head;

a hydraulically actuated differential pressure activated (DPA) valve; and

a filtration element;

wherein a front side of said primary feed head comprises a different swept volume than a front side of said secondary retentate head; and

wherein said DPA valve comprises:

a single piston slideably disposed in a single chamber, said chamber comprising a feed inlet port, a retentate inlet port, and a retentate discharge port; and

said piston comprising a feed side and a retentate side;

wherein an area of said feed side is larger than an area of said retentate side for keeping said retentate inlet port sealed during a compression stroke of said pump.

2. (original) The filtration system of claim 1 wherein said pump is a diaphragm pump.

3. (canceled)

4. (canceled)

5. (previously presented) The filtration system of claim 1 wherein said two heads provide a fixed recovery.

6. (previously presented) The filtration system of claim 1 wherein said two heads comprise diaphragms of differing radii.

7. (previously presented) The filtration system of claim 1 wherein said secondary retentate head is smaller than said primary feed head.

8. (previously presented) The filtration system of claim 1 further comprising a connection between said two heads.

9. (original) The filtration system of claim 8 wherein said connection is mechanical.

10. (original) The filtration system of claim 9 wherein said connection is a shaft.

11. (canceled)

12. (original) The filtration system of claim 8 wherein a force on said secondary retentate head offsets a force on said primary feed head.

13. (canceled)

14. (previously presented) The filtration system of claim 1 wherein said valve seals a discharge port of said retentate head when a feed pressure exceeds a retentate pressure.

15. (original) The filtration system of claim 14 wherein said valve is hydraulically activated.

16. (original) The filtration system of claim 14 wherein said connection and said valve provide a pressure recovery to said filtration system.

17. (original) The filtration system of claim 16 wherein said pressure recovery reduces energy required to operate said filtration system.

18. (original) The filtration system of claim 1 wherein said filtration element comprises a reverse osmosis element.

19. (original) The filtration system of claim 18 wherein said reverse osmosis element comprises a spiral wrapped element.

20. (original) The filtration system of claim 19 wherein said spiral wrapped element comprises:

at least one membrane; and

at least one thin feed spacer.

21. (original) The filtration element of claim 20 wherein said at least one thin feed spacer comprises a plastic web mesh.

22. (original) The filtration system of claim 20 wherein said at least one thin feed spacer is less than approximately .025 inches thick.

23. (original) The filtration system of claim 20 wherein said at least one thin feed spacer is less than approximately .011 inches thick.

24. (original) The filtration system of claim 20 wherein said at least one thin feed spacer provides for a reduction in an amount of total dissolved solids at a surface of said membrane.

25. (previously presented) The filtration system of claim 1 wherein at least one parameter of an optimized pulsed fluid flow produced by said pump is determined by a configuration of said filter element.

26. (previously presented) The filtration system of claim 25 wherein said parameter is selected from the group consisting of pulse frequency and pulse amplitude.

27. (previously presented) The filtration system of claim 25 further comprising at least one control to vary said at least one parameter.

28. (original) The filtration system of claim 27 wherein said control is manual.

29. (original) The filtration system of claim 27 wherein said control is automatic.

30. (original) The filtration system of claim 27 further comprising at least one permeate quality monitoring device.

31. (original) The filtration system of claim 30 wherein said at least one permeate quality monitoring device comprises a flow meter.

32. (original) The filtration system of claim 30 wherein said at least one permeate quality monitoring device measures total dissolved solids.

33. (original) The filtration system of claim 32 wherein said at least one permeate quality monitoring device comprises a conductivity meter.

34. (original) The filtration system of claim 30 further comprising a feedback loop, wherein said control is varied to optimize a quality of permeate as determined by said permeate quality monitoring device.

35. (original) The filtration system of claim 34 further comprising an electrical measurement device, wherein said electrical measurement device measures an amperage load on said system.

36. (original) The filtration system of claim 35 wherein said control is varied additionally to minimize said amperage load on said system.

37. (currently amended) A method for filtering a substance comprising the steps of:

providing at least one filtration element;

providing a dual head pump which pumps a pulsed flow of the substance to the filtration element, the dual head pump comprising a single primary feed head and a single secondary retentate head separate from said primary feed head, wherein a front side of said primary feed head comprises a different swept volume than a front side of said secondary retentate head;

sealing a discharge port of a retentate head with a hydraulically actuated DPA valve when a feed pressure exceeds a retentate pressure; and

varying at least one parameter of the pulsed flow to optimize a desired characteristic of permeate filtered by the filtration element and the pump;

wherein the DPA valve comprises:

a single piston slideably disposed in a single chamber, the chamber comprising a feed inlet port, a retentate inlet port, and a retentate discharge port; and

the piston comprising a feed side and a retentate side;

wherein an area of the feed side is larger than an area of the retentate side for keeping the retentate inlet port sealed during a compression stroke of the pump.

38. (original) The method of claim 37 wherein the step of providing a pump comprises providing a diaphragm pump.

39. (canceled)

40. (previously presented) The method of claim 37 wherein the step of providing a dual head pump further comprises connecting the two pump heads.

41. (canceled)

42. (canceled)

43. (previously presented) The method of claim 37 wherein the step of providing a dual head pump further comprises providing a pressure recovery.

44. (original) The method of claim 43 wherein the step of providing a pressure recovery further comprises reducing energy required to filter the substance.

45. (original) The method of claim 37 wherein the step of providing a filtration element comprises providing a reverse osmosis element.

46. (original) The method of claim 45 wherein the step of providing a reverse osmosis element comprises providing a spiral wrapped element.

47. (original) The method of claim 46 wherein the step of providing a spiral wrapped element comprises providing at least one membrane and at least one thin feed spacer in the element.

48. (original) The method of claim 47 wherein the step of providing at least one membrane and at least one thin feed spacer in the element comprises reducing the amount of total dissolved solids at a surface of the membrane.

49. (original) The method of claim 37 wherein the step of varying at least one parameter of the pulsed flow comprises varying a pulse frequency and a pulse amplitude.

50. (original) The method of claim 37 wherein the step of varying at least one parameter of the pulsed flow further comprises measuring a desired characteristic of permeate.

51. (original) The method of claim 50 wherein the step of measuring the desired characteristic of the permeate comprises measuring a permeate flow rate.

52. (original) The method of claim 50 wherein the step of measuring the desired characteristic of the permeate comprises measuring total dissolved solids in the permeate.

53. (original) The method of claim 50 wherein the step of varying at least one parameter of the pulsed flow further comprises measuring an amperage load on the pump.

54. (original) The method of claim 53 wherein the step of measuring the amperage load on the pump further comprises minimizing the amperage load on the pump.

55. (original) The method of claim 53 further comprising providing a feedback loop to

automatically vary the parameter of the pulsed flow, thereby optimizing the desired characteristic of the permeate and pump.

56. (currently amended) A pressure recovery filtration system comprising:

a dual head pump comprising a single primary feed head, a single secondary retentate head separate from said primary feed head and a single connection between the two heads;

a filtration element; and

a hydraulically actuated differential pressure activated (DPA) valve;

wherein a front side of said primary feed head comprises a different swept volume than a front side of said secondary retentate head; and

wherein said DPA valve comprises:

a single piston slideably disposed in a single chamber, said chamber comprising a feed inlet port, a retentate inlet port, and a retentate discharge port; and

said piston comprising a feed side and a retentate side;

wherein an area of said feed side is larger than an area of said retentate side for keeping said retentate inlet port sealed during a compression stroke of said pump.

57. (original) The pressure recovery filtration system of claim 56 wherein at least one of said heads comprises a diaphragm.

58. (original) The pressure recovery filtration system of claim 56 wherein said connection is mechanical.

59. (previously presented) The pressure recovery filtration system of claim 58 wherein said single connection is a shaft.

60. (canceled)

61. (original) The pressure recovery filtration system of claim 56 wherein a force on said secondary retentate head offsets a force on said primary feed head.

62. (original) The pressure recovery filtration system of claim 61 wherein said valve seals a discharge port of said retentate head when a feed pressure exceeds a retentate pressure.

63. (original) The pressure recovery filtration system of claim 62 wherein said valve comprises an inlet port connected to said retentate head and an inlet port connected to said feed head.

64. (original) The pressure recovery filtration system of claim 63 wherein said valve actuates according to a relative pressure difference between said inlet ports.

65. (canceled)

66. (canceled)

67. (previously presented) The method of claim 39 wherein the two pump heads are connected by a single shaft.

68. (canceled)

REMARKS

The Examiner's attention to the present application is noted with appreciation. In response to the Examiner's comments on priority, applicant notes that 10/382,971 discloses thin feed spacers, which are claimed in present claim 20, and U.S. Patent No. 6,558,537, which is the parent application of 09/907,092 discloses pulsing, which is claimed in many places in the present claims. This application claims priority to the said parent applications with respect to said subject matter.

The Examiner rejected claims 1, 2, 5, 8-10, 12, 14-21, 24-29, 37, 38, 40, 43-49, 55-59, 61-64, and 67 under 35 U.S.C. 102(b) as being anticipated by Wilson. The Examiner also rejected claims 22, 23, 30-36, and 50-54 under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of other references. These rejections are respectfully traversed, particularly as to the claims as amended. The claims have been amended to clarify the claimed invention. As stated in the Applicant's previously filed Request for Reconsideration, the present claims clearly require a dual head pump comprising a primary feed head and a secondary retentate head. None of the art cited discloses such a pump. The pump of Wilson does not disclose two heads, one of which is a feed head and one of which is a retentate head. Rather, Wilson discloses two heads connected in parallel, the front and rear faces of *each head* comprising different swept volumes (col. 3, lines 8-35, and col. 2 lines 6-15 of 4,124,488). That is, the two heads disclosed by Wilson are not a feed head and a retentate head. Each of Wilson's heads serves the same purpose as the other head; it is the front and rear *faces* of each of Wilson's heads which comprise different swept volumes. Thus, neither Wilson nor any of the other cited art disclose or suggest a dual head pump with the claimed structure of two separate, single heads the front sides of which comprise different swept volumes.

The Examiner rejected claims 1-7, 37, 38, 56, and 57 under 35 U.S.C. 102(b) as being anticipated by Keefer. Such rejection is respectfully traversed, particularly as to the claims as amended. Keefer discloses only a single head, the front and rear *faces* of which comprise different swept volumes. (Although it looks like a pump head, **15** is actually a differential surge absorber.) Further, neither Keefer nor any of the art cited disclose a hydraulically activated DPA valve. The equivalent valving assembly **13**

of Keefer is operated manually by the pumping action of the user. The other art cited discloses valving which is activated via solenoids or like methods.

In view of the above amendments and remarks, it is respectfully submitted that all grounds of rejection and objection have been avoided and/or traversed. It is believed that the case is now in condition for allowance and same is respectfully requested.

In view of the above amendments and remarks, it is respectfully submitted that all grounds of rejection and objection have been avoided and/or traversed. It is believed that the case is now in condition for allowance and same is respectfully requested. If any issues remain, or if the Examiner believes that prosecution of this application might be expedited by discussion of the issues, the Examiner is cordially invited to telephone the undersigned agent for Applicant at the telephone number listed below.

Also being filed herewith is a Petition for Extension of Time to February 12, 2007, with the appropriate fee. Credit card authorization has been given for payment of the appropriate fee. Authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213.

Respectfully submitted,

By: _____

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